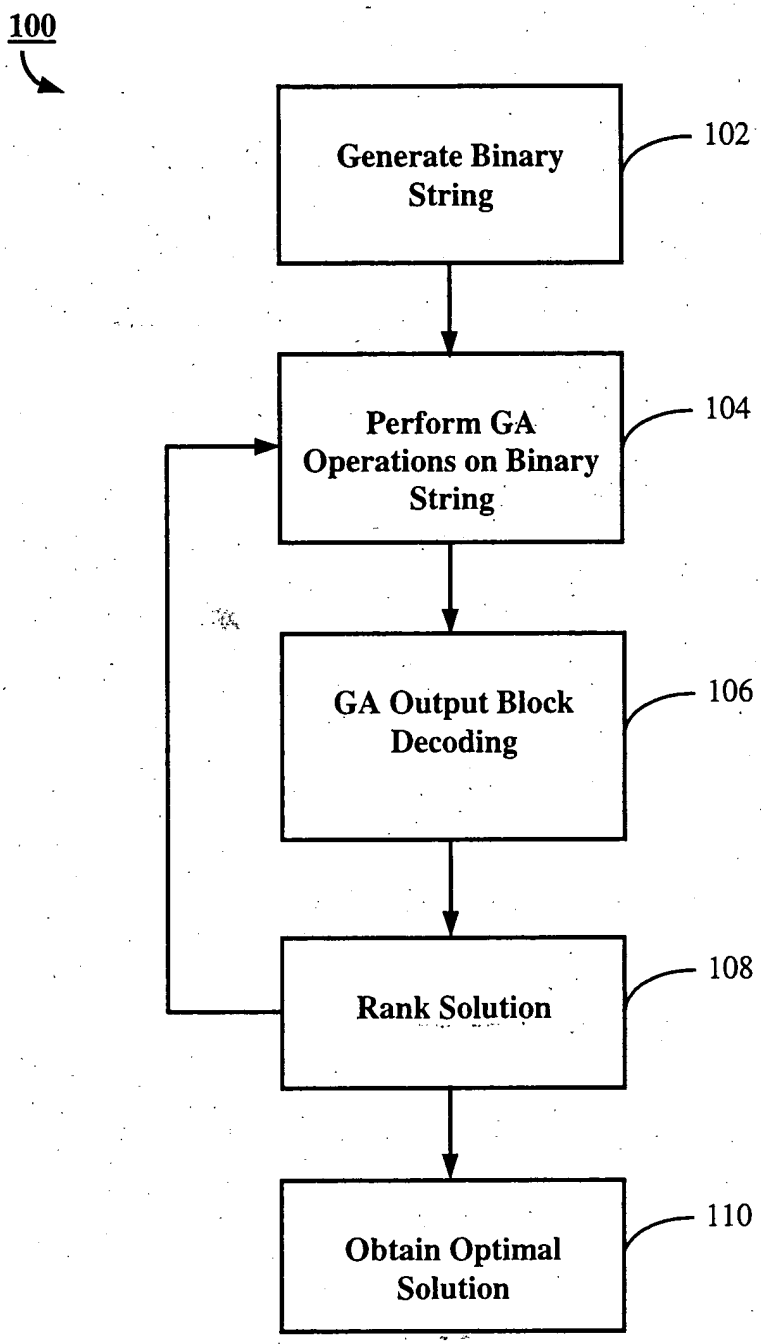


FIG. 1
(Prior Art)

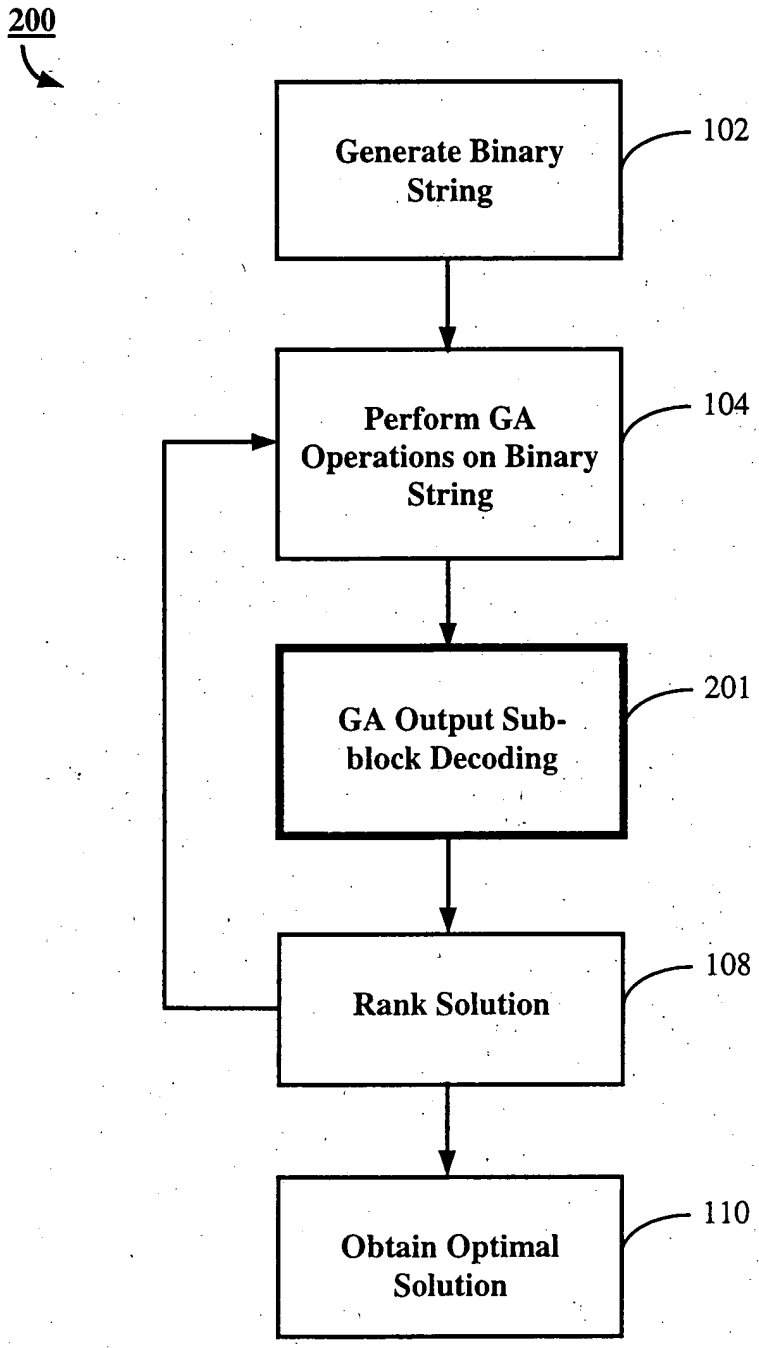

200
Generate Binary String
102
Perform GA Operations on Binary String
104
GA Output Sub-block Decoding
201
Rank Solution
108
Obtain Optimal Solution
110

FIG. 2A

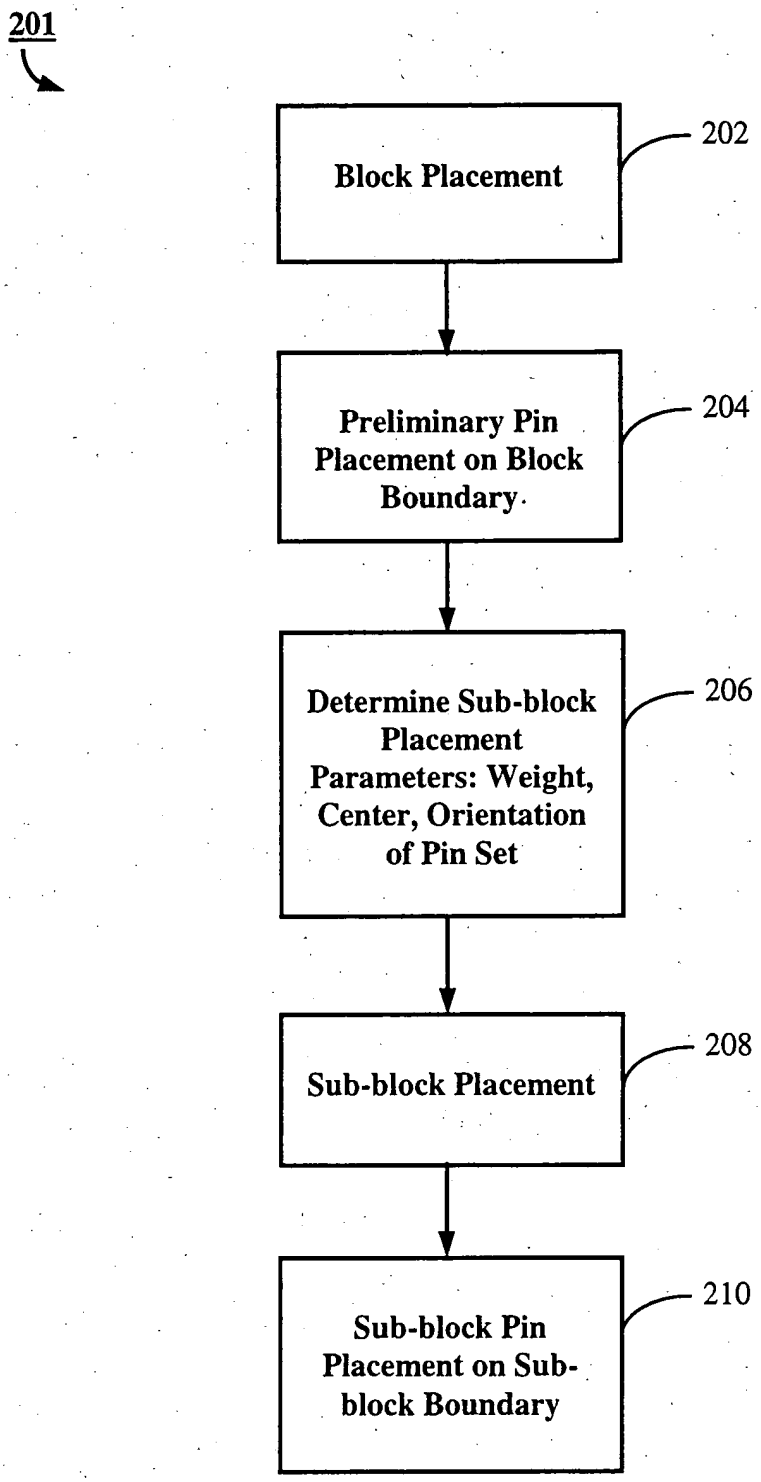

201
Block Placement
202
Preliminary Pin Placement on Block Boundary
204
Determine Sub-block Placement Parameters: Weight, Center, Orientation of Pin Set
206
Sub-block Placement
208
Sub-block Pin Placement on Sub-block Boundary
210

FIG. 2B

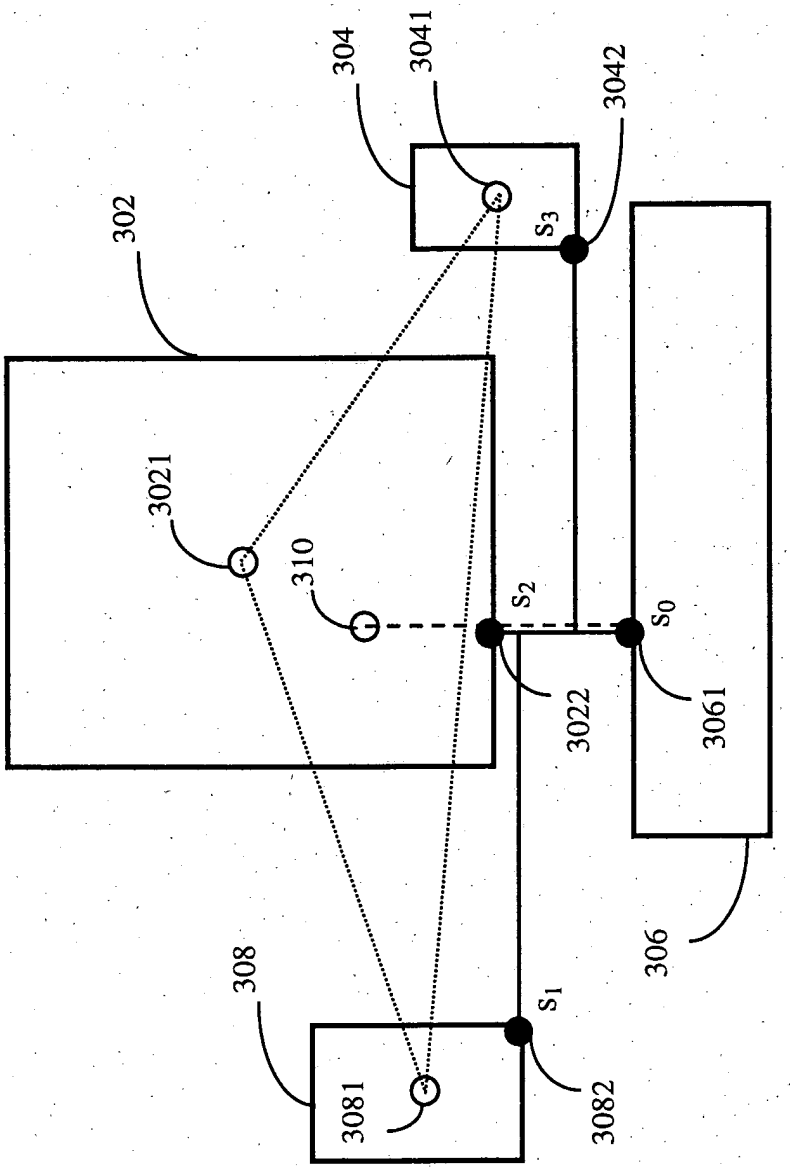

304
3041
3042
302
S_3
3021
310
S_2
S_0
3022
3061
306
308
S_1
3081
3082

FIG. 3A

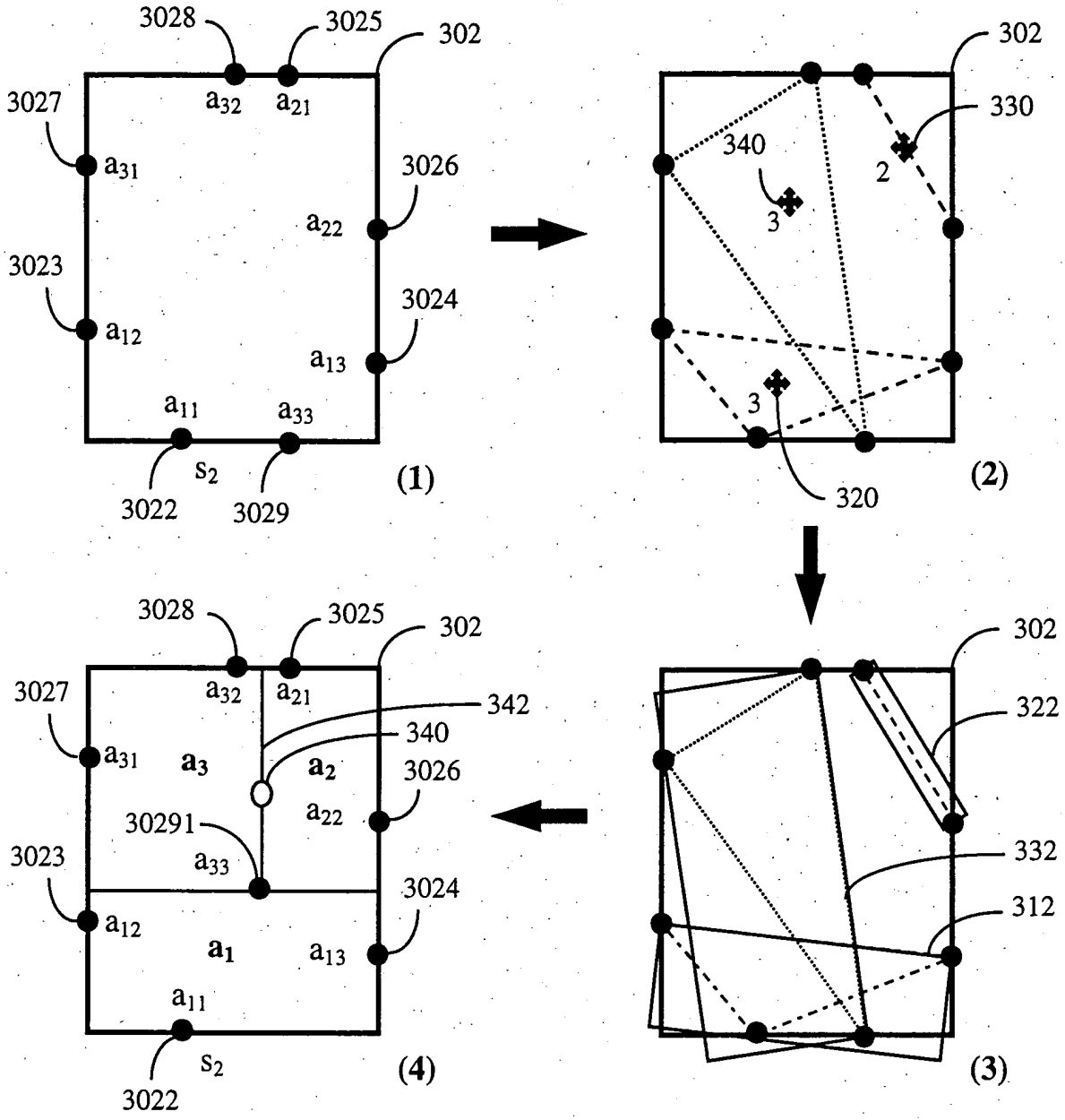

3028
3025
302
3027
a_{32}
a_{21}
a_{31}
3026
a_{22}
3023
3024
a_{12}
a_{13}
a_{11}
a_{33}
s_2
3022
3029
(1)
302
330
340
2
3
3
320
(2)
302
322
332
312
(3)
3028
3025
302
3027
a_{32}
a_{21}
342
340
a_{31}
a_3
a_2
3026
a_{22}
30291
a_{33}
3023
3024
a_{12}
a_1
a_{13}
a_{11}
s_2
3022
(4)

FIG. 3B

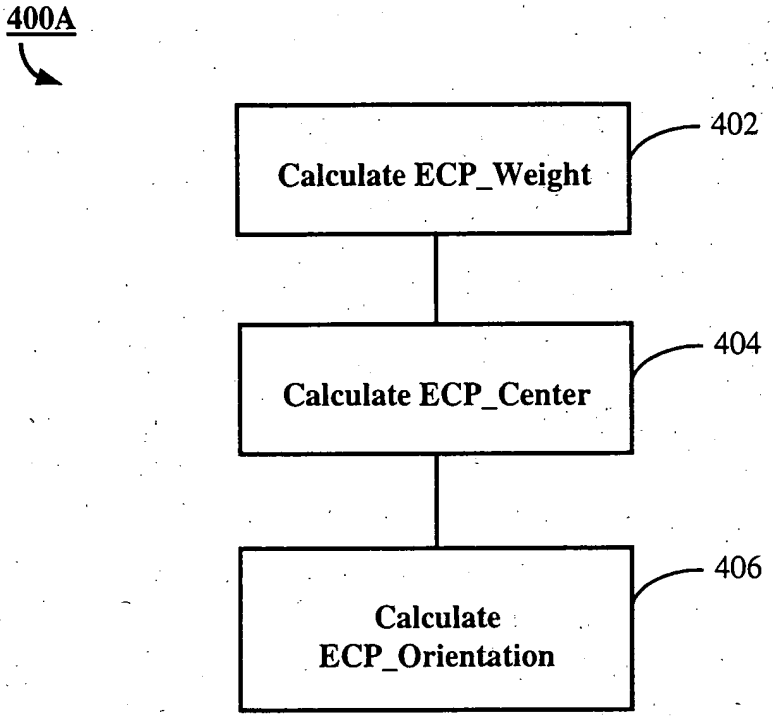

400A
Calculate ECP_Weight
402
Calculate ECP_Center
404
Calculate ECP_Orientation
406

FIG. 4A

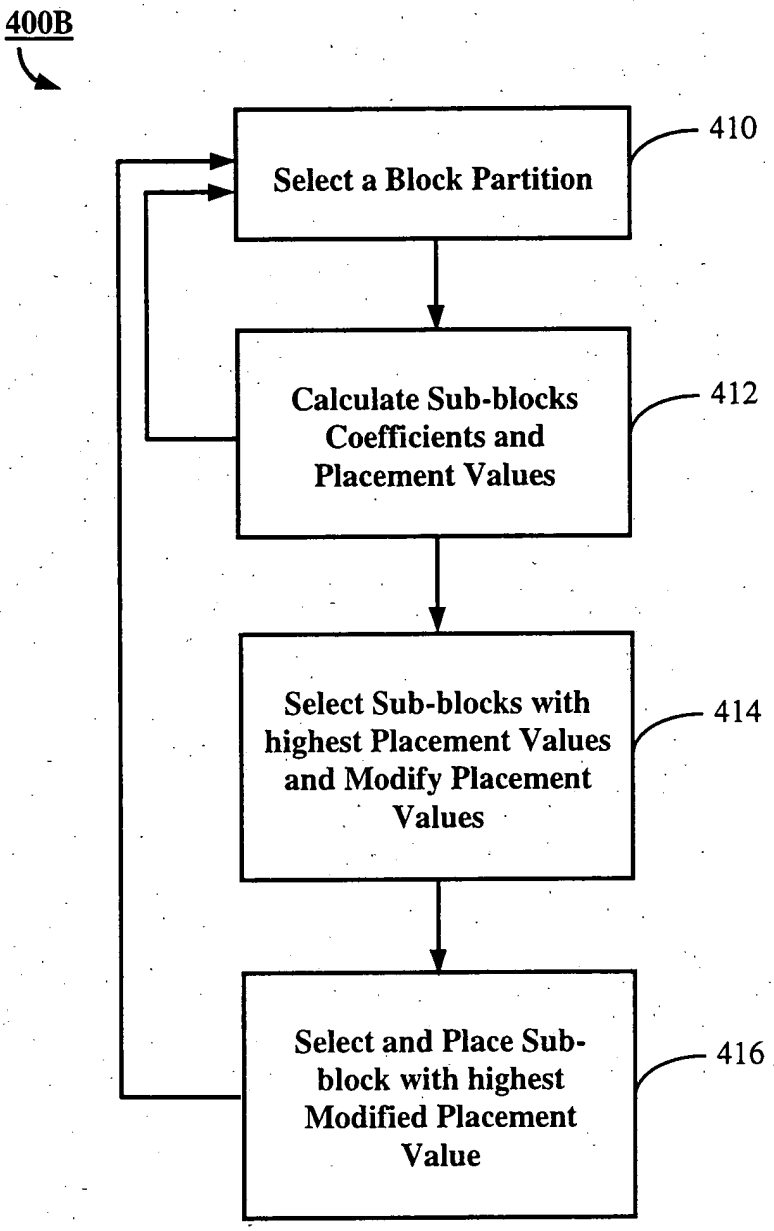

400B
Select a Block Partition
410
Calculate Sub-blocks Coefficients and Placement Values
412
Select Sub-blocks with highest Placement Values and Modify Placement Values
414
Select and Place Sub-block with highest Modified Placement Value
416

FIG. 4B

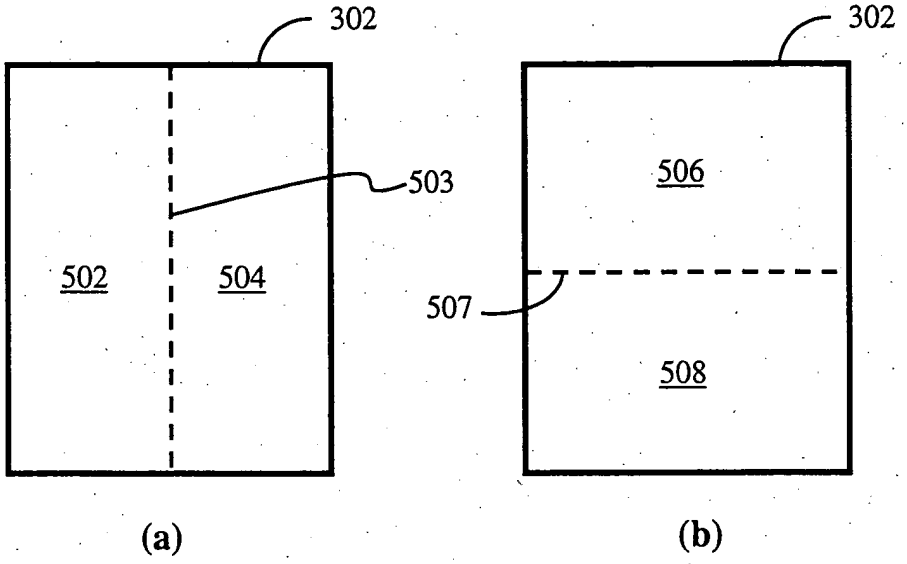

302
503
502
504
(a)
302
506
507
508
(b)

FIG. 5

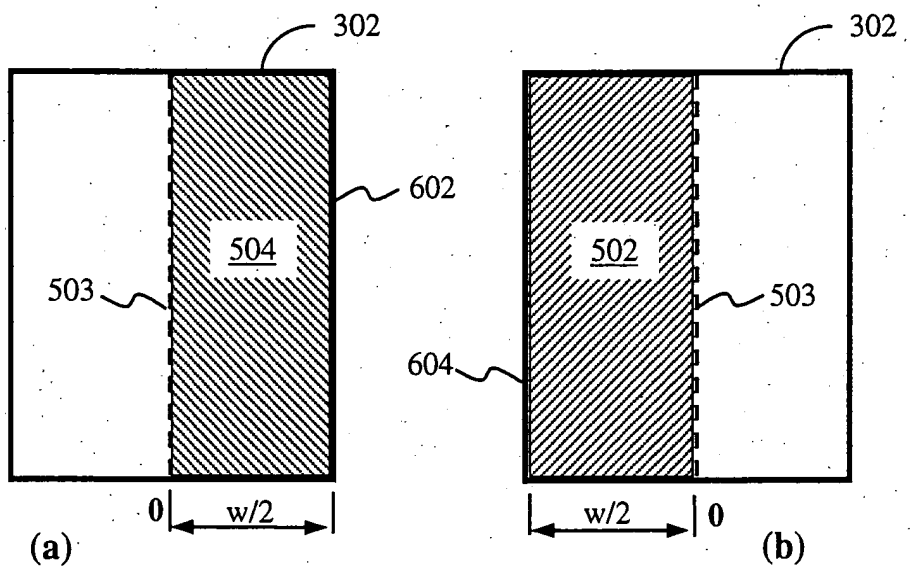

302
602
504
503
0
w/2
(a)
302
604
502
503
w/2
0
(b)

FIG. 6

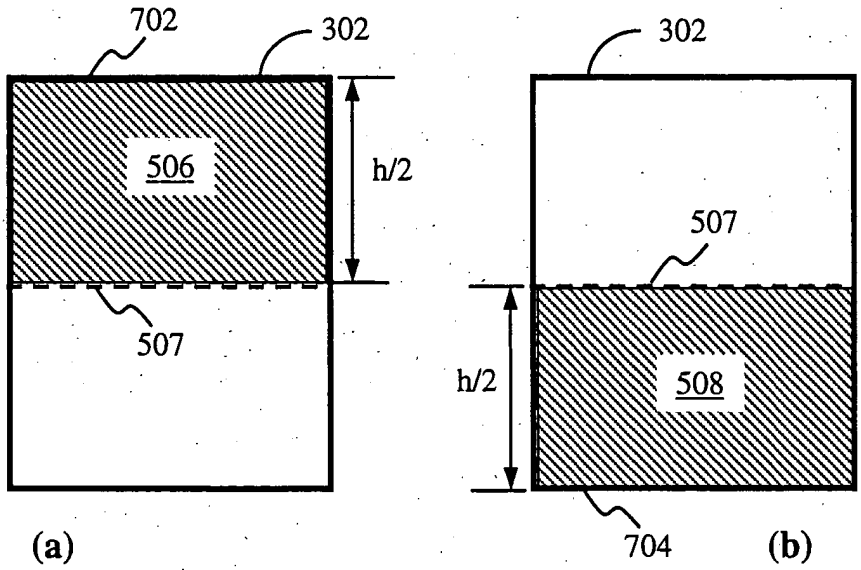

702
302
506
h/2
507
(a)
302
507
h/2
508
704
(b)

FIG. 7

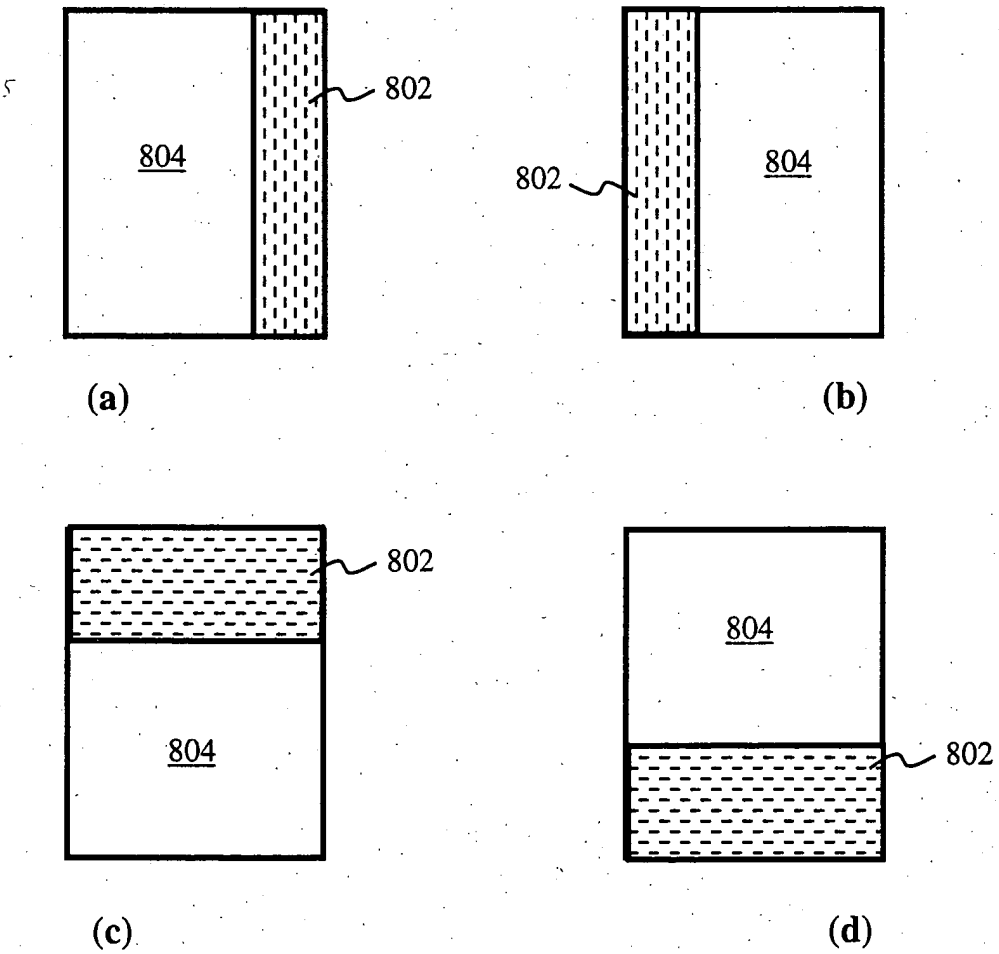

804
802
(a)
802
804
(b)
802
804
(c)
804
802
(d)

FIG. 8

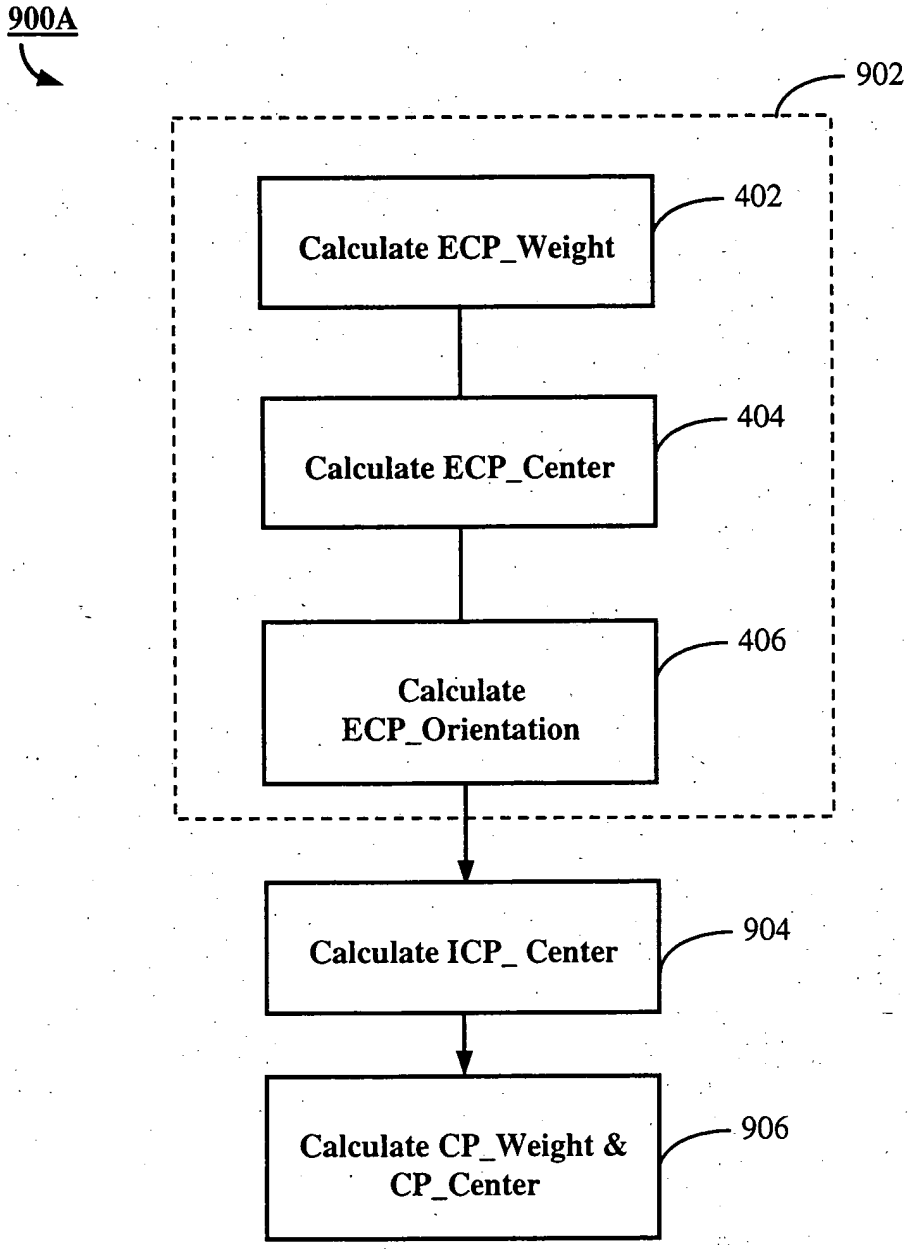

900A
902
Calculate ECP_Weight
402
Calculate ECP_Center
404
Calculate ECP_Orientation
406
Calculate ICP_ Center
904
Calculate CP_Weight & CP_Center
906

FIG. 9A

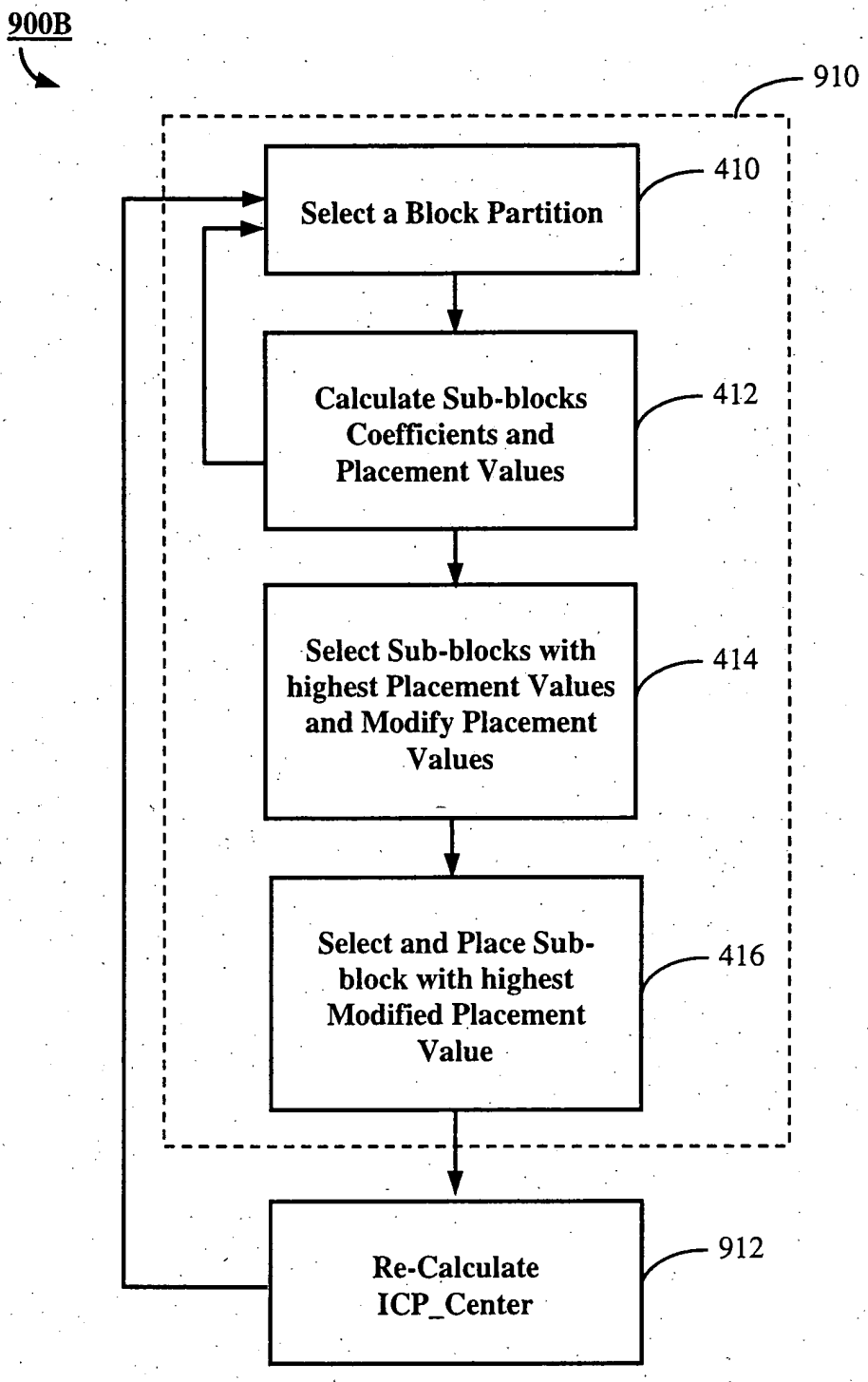
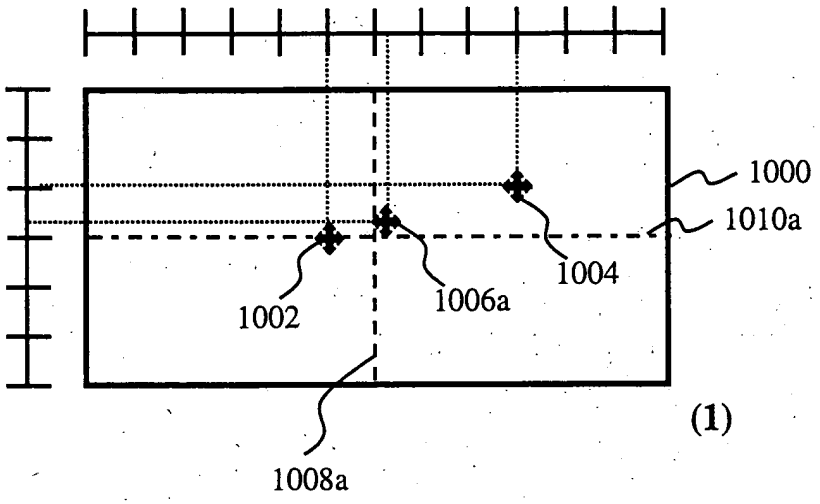
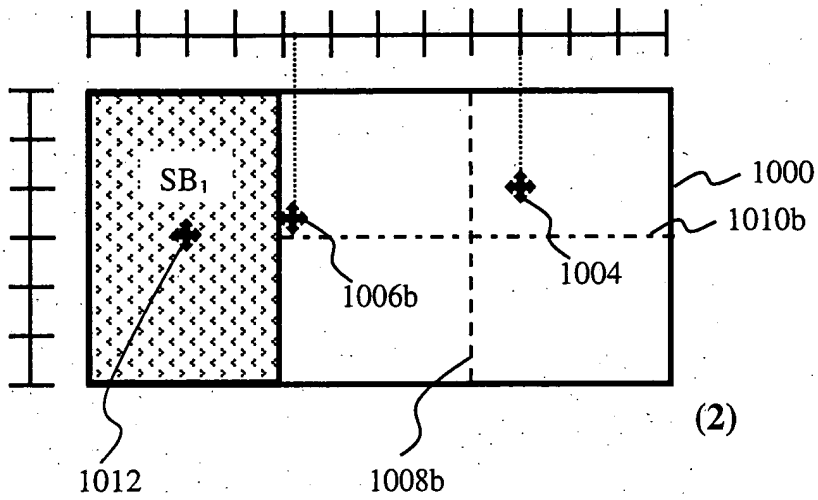

900B
910
Select a Block Partition
410
Calculate Sub-blocks Coefficients and Placement Values
412
Select Sub-blocks with highest Placement Values and Modify Placement Values
414
Select and Place Sub-block with highest Modified Placement Value
416
Re-Calculate ICP_Center
912

FIG. 9B


1000
1010a
1004
1002
1006a
1008a
(1)


SB1
1000
1010b
1004
1006b
1012
1008b
(2)

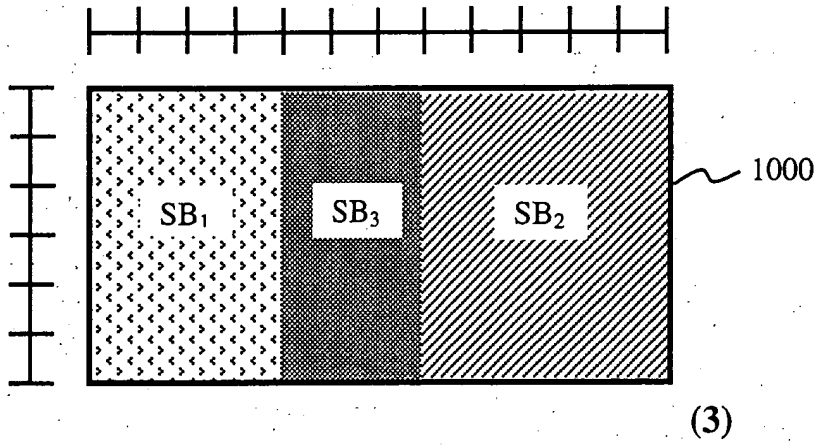

SB1
SB3
SB2
1000
(3)

FIG. 10